

REMARKS

Claims 1-3 are all the claims pending in the application.

Claims 1-3 stand rejected under 35 U.S.C. § 103 as allegedly being unpatentable over WO 02/051528 to De La Cruz ("Cruz '528") or U.S. Patent No. 6,352,641 to Schmidt ("Schmidt '641").

Applicants respectfully traverse.

Claim 1 recites that an effective perforated-part area is at least 1.0 time the inner cross-sectional area of a core tube. Further, claim 1 recites that the effective perforated-part area is calculated by "multiplying the total area of the perforated parts in the core tube by the percentage of openings of one layer of a permeation-side passage material surrounding the core tube."

Referring to page 2 of the Advisory Action, the Examiner asserts that Cruz '528 teaches the claimed effective perforated-part area and that even if it does not, a person of ordinary skill in the art would have been motivated to optimize the effective perforated-part area thereof to the claimed effective perforated-part area. The Examiner asserts that a person of ordinary skill in the art would have provided for the claimed effective perforated-part area, based on the "very conservative" assumption that the "feed spacer mesh" disclosed in Cruz '528 would have a 50 % opening.

Pursuant to MPEP § 2144.03, it is incorrect to assume a 50 % opening without evidence. *See* MPEP § 2144.03.

The percentage of opening in the "feed spacer mesh" disclosed in Cruz '528 is also irrelevant to the claimed effective perforated-part area. The effective perforated-part area is

calculated by multiplying the total area of the perforated parts in the core tube by the percentage of openings of one layer of a permeation-side passage material surrounding the core tube. The “feed spacer mesh” disclosed in Cruz ‘528 is different from a permeation side-passage material. Thus, a person of ordinary skill in the art would not have provided for the claimed effective perforated-part area based on the percentage of openings in the “feed spacer mesh” disclosed in Cruz ‘528.

Even if the percentage of openings refers to a permeation-side passage material, the assumption of a 50 % opening is not a conservative assumption. The specification describes that the percentage of openings of one layer of a permeation-side passage material surrounding the core tube may be as low as about 20 %. *See* page 2 of the specification. Further, Example 1 of the specification describes that the percentage of openings of one layer of a permeation-side passage material surrounding the core tube is 20 %. *Id.* at 11. As seen from the descriptions in the specification, the assumption that a permeation-side passage material has a 50 % opening is not “very conservative.” As the assumption of a 50 % opening is not “very conservative,” there is no motivation to select the appropriate percentage of opening to provide for the claimed effective perforated part area.

Further, Cruz ‘528 fails to teach or suggest the total area of the perforated parts in the core tube.

Furthermore, a person of ordinary skill in the art would not have been motivated to optimize the filtration cartridge disclosed in Cruz ‘528. A particular parameter must be first recognized as a result-effective variable before the determination of the optimum or workable

RESPONSE UNDER 37 C.F.R. § 1.114(c)
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ranges of the parameter. *See* MPEP § 2144.05 (II)(B). In the present case, Cruz '528 fails to recognize that the effective perforated-part area is a result-effective variable. As described above, Cruz '528 fails to teach the total area of the perforated parts in the core tube. As also described above, Cruz '528 also fails to teach or suggest the percentage of openings of a permeation-side passage material. As a result, a person of ordinary skill in the art would not have been motivated to optimize an effective perforated-part area of the filtration cartridge disclosed in Cruz '528.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.


Respectfully submitted,

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